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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/689,247

10/20/2003

Hideaki Nagakubo

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3870

7590

10/26/2005

Brinks Hofer Gilson & Lione  
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EXAMINER

CHOWDHURY, TARIFUR RASHID

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 10/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/689,247

Applicant(s)

NAGAKUBO ET AL.

Examiner

Tarifur R. Chowdhury

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09/06/05 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/20/03</u> | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Specification*

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1, 2 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Choi et al., (Choi), USPAT 6,831,711.**

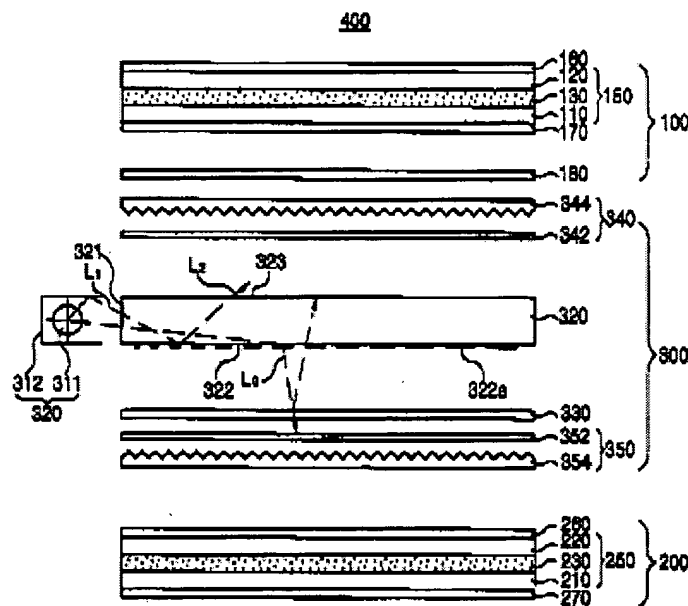
5. Choi discloses and shows in Fig. 1, a double-sided emissive LCD module comprising:

- a double-sided illumination plate ;
- a first LCD display panel (250) disposed at an upper surface of the double-sided illumination plate;

Art Unit: 2871

- a second LCD display panel (150) disposed at a lower surface of the double-sided illumination plate;

FIG. 9



the double-sided illumination plate comprising:

- a light source (311);
- a light guide plate (320) for emitting light guided from the light source onto the first and second surfaces; and
- a transflector (180) disposed on a surface of the light guide plate (320) facing the second LCD panel (150),

wherein the transflector reflects a part of the light emitted from the light guide plate to the first LCD panel and transmits the rest of the light to the second LCD panel.

Accordingly, Claim 1 is anticipated.

As to claim 2, due to the location of the transflector on a lower surface of the light guide plate facing the second LCD panel, the illumination plate would inherently emit 70 to 90 percent of light to the upper surface and emit 10 to 30 percent of light to the lower surface.

As to claim 4, Choi also shows in Fig. 9 that a prism sheet (354) is disposed between the double-sided illumination plate and the first LCD panel (250).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

Art Unit: 2871

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

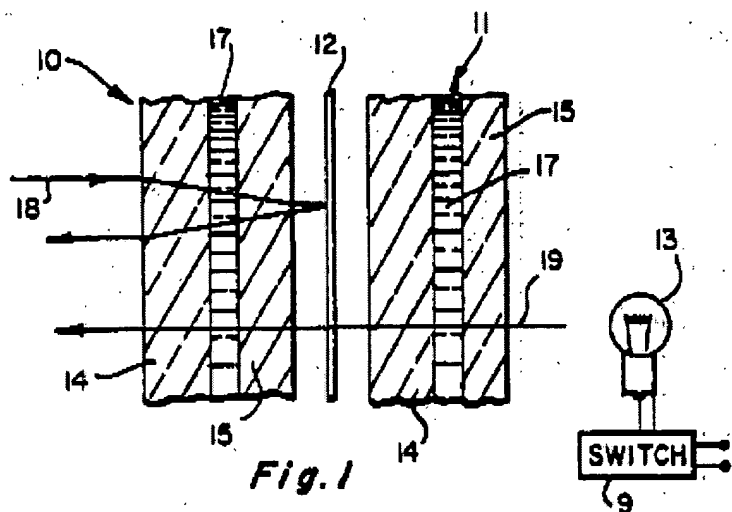
**8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Choi.**

9. As to claim 3, Choi differs from the claimed invention because he does not explicitly disclose that the first and second LCD panels are transfective. However, using transfective display panels are common and known in the art and thus would have been obvious to obtain high contrast.

**10. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haim et al., (Haim), USPAT 4,637,687 in view of Yamauchi, USPAT 6,847,427.**

11. Haim discloses and shows in Fig. 1, a dual liquid crystal display device comprising:

- a first display unit including:
  - o a first liquid crystal display panel having a first substrate (14), a second substrate (15) and a first liquid crystal layer (17) between the first and second substrates; and
  - o a transfective film (12) disposed under the first liquid crystal display panel, so that the transfective film partially reflects and partially transmits an incident light incident onto the transfective film;



- a second display unit including a second liquid crystal display panel having a third substrate (14) and a fourth substrate (15) and a second liquid crystal layer (11) between the third and the fourth substrate; and
- a light supplying unit (13).

Haim differs from the claimed invention because he does not explicitly disclose that the light supplying unit is double sides illumination plate and is disposed between the first and second display units.

Yamauchi shows in Fig. 3, a dual liquid crystal display panel wherein a light supplying unit (5) disposed between the first and second display units (1 and 11), wherein the light supplying unit including a light source (6) and a light guide plate (7) for emitting light guided from the light source onto the first and second surfaces. Yamauchi further discloses that such an arrangement is advantageous since it increases an efficiency of utilizing light of the illumination apparatus and bright two faces display is obtained (col. 2, lines 47-56).

Art Unit: 2871

Yamauchi is evidence that ordinary workers in the art would find a reason, suggestion or motivation to dispose the light supplying unit between the first and second display units.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the display device of Haim by disposing the double-sided illumination plate between the first and second display units for advantages such as obtaining a bright two faces display, as per the teachings of Yamauchi.

Accordingly, claim 1 would have been obvious.

As to claim 2, due to the location of the transflector on a lower surface of the light guide plate facing the second LCD panel, the illumination plate emitting 70 to 90 percent of light to the upper surface and emit 10 to 30 percent of light to the lower surface would at least been obvious.

As to claim 3, Choi differs from the claimed invention because he does not explicitly disclose that the first and second LCD panels are transfective. However, using transfective display panels are common and known in the art and thus would have been obvious to obtain high contrast.

As to claim 4, Haim when modified by Yamauchi fail to disclose the claimed prism sheet. However, interposing a prism sheet between the illumination plate and the LCD panel would have been obvious for the advantage for enhancing viewing angle.



***Conclusion***

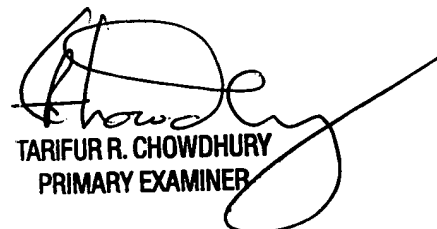
12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarifur R. Chowdhury whose telephone number is (571) 272-2287. The examiner can normally be reached on M-Th (6:30-5:00) Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRC  
October 22, 2005

  
TARIFUR R. CHOWDHURY  
PRIMARY EXAMINER